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**New Report Provides Authoritative Assessment of National, Regional Impacts of  
Global Climate Change**

**Details Point to Potential Value of Early, Aggressive Action**

Climate change is already having visible impacts in the United States, and the choices we make now will determine the severity of its impacts in the future, according to a new and authoritative federal study assessing the current and anticipated domestic impacts of climate change.

The report, "Global Climate Change Impacts in the United States," compiles years of scientific research and takes into account new data not available during the preparation of previous large national and global assessments. It was produced by a consortium of experts from 13 U.S. government science agencies and from several major universities and research institutes. With its production and review spanning Republican and Democratic administrations, it offers a valuable, objective scientific consensus on how climate change is affecting—and may further affect—the United States.

"This new report integrates the most up-to-date scientific findings into a comprehensive picture of the ongoing as well as expected future impacts of heat-trapping pollution on the climate experienced by Americans, region by region and sector by sector," said John P. Holdren, Assistant to the President for Science and Technology and director of the White House Office of Science and Technology Policy. "It tells us why remedial action is needed sooner rather than later, as well as showing why that action must include both global emissions reductions to reduce the extent of climate change and local adaptation measures to reduce the damage from the changes that are no longer avoidable."

The report, which confirms previous evidence that global temperature increases in recent decades have been primarily human-induced, incorporates the latest information on rising temperatures and sea levels; increases in extreme weather events; and other climate-related phenomena. Adding greatly to its practical value in the realm of policy and planning, it is the first such report in almost a decade to break out those impacts by U.S. region and economic sector, and the first to do so in such great detail.

"This report stresses that climate change has immediate and local impacts – it literally affects people in their backyards," said Jane Lubchenco, under secretary of commerce for oceans and atmosphere and administrator of the National Oceanic and Atmospheric Administration. "In keeping with our goals, the information in it is accessible and useful to everyone from city planners and national legislators to citizens who want to better



understand what climate change means to them. This is an issue that clearly affects everyone.”

A product of the interagency U.S. Global Change Research Program, the definitive 190-page report, produced under NOAA's leadership, is written in plain language to better inform members of the public and policymakers. Commissioned in 2007 and completed this spring, the science-based report is a consensus product spanning two Presidential administrations and transcends political leanings or biases. It underwent intensive review by scientists inside and outside of government and includes information more recent than that incorporated into the last major report on global climate change released by the Intergovernmental Panel on Climate Change.

The report is not intended to direct policy makers to take any one approach over another to mitigate climate change or adapt to it. But it emphasizes that the choices we make now will determine the severity of climate change impacts in the future. “Implementing sizable and sustained reductions in carbon dioxide emissions as soon as possible would significantly reduce the pace and the overall amount of climate change,” the report states, “and would be more effective than reductions of the same size initiated later.”

The study finds that Americans are already being affected by climate change through extreme weather, drought and wildfire trends and details how the nation's transportation, agriculture, health, water and energy sectors will be affected in the future. The study also finds that the current trend in the emission of greenhouse gas pollution is significantly above the worst-case scenario that this and other reports have considered.

Among the main findings are:

- Heat waves will become more frequent and intense, increasing threats to human health and quality of life. Extreme heat will also affect transportation and energy systems, and crop and livestock production.
- Increased heavy downpours will lead to more flooding, waterborne diseases, negative effects on agriculture, and disruptions to energy, water, and transportation systems.
- Reduced summer runoff and increasing water demands will create greater competition for water supplies in some regions, especially in the West.
- Rising water temperatures and ocean acidification threaten coral reefs and the rich ecosystems they support. These and other climate-related impacts on coastal and marine ecosystems will have major implications for tourism and fisheries.
- Insect infestations and wildfires are already increasing and are projected to increase further in a warming climate.
- Local sea-level rise of over three feet on top of storm surges will increasingly threaten homes and other coastal infrastructure. Coastal flooding will become more frequent and severe, and coastal land will increasingly be lost to the rising seas.

By breaking out results in terms of region and economic sector the report provides a valuable tool not just for policymakers but for all Americans who will be affected by these trends. Its information can help:



- **farmers** making crop and livestock decisions, as growing seasons lengthen, insect management becomes more difficult and droughts become more severe;
- **local officials** thinking about zoning decisions, especially along coastal areas;
- **public health officials** developing ways to lessen the impacts of heat waves throughout the country;
- **water resource officials** considering development plans; and,
- **business owners** as they consider business and investment decisions.

Responses to climate change fall into two categories. The first involves “mitigation” measures to limit climate change by reducing emissions of heat-trapping pollution or increasing their removal from the atmosphere. The second involves “adaptation” measures to improve our ability to cope with or avoid harmful impacts, and take advantage of beneficial ones. “Both of these are necessary elements of an effective response strategy,” said Jerry Melillo of the Marine Biological Laboratory in Woods Hole, MA, a report co-chair.

“By comparing impacts that are projected to result from higher versus lower emissions of heat-trapping gasses, our report underscores the importance and real economic value of reducing those emissions,” said Tom Karl, director of NOAA’s National Climatic Data Center in Asheville, N.C. and one of the co-chairs of the report. “It shows that the choices made now will have far-reaching consequences.”

The report draws from a large body of scientific information, including the set of 21 Synthesis and Assessment reports from the U.S. Global Change Research Program. The government agencies affiliated with the program include the Departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Interior, State, and Transportation; the Environmental Protection Agency; NASA; National Science Foundation; Smithsonian Institution; and the United States Agency for International Development.

The report is available for download online: <http://www.globalchange.gov/usimpacts>.

Accompanying video will be available on NASA TV June 16 at 1:30 p.m. and 3:30 p.m. Eastern Daylight Time. For coordinates and schedule information, please see <http://www.nasa.gov/ntv>.

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